



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
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D117-762-041
Job Sheet 189407



Part No: D117-762-041

Job Qty: 1 ea

Part Name: Replacement Skidtube



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/23/19

Job Tracking No:

Due Date: 2/1/19

Created By: Jesse White

Type: SOLD

Description:

Note: DWG D3582 REV E IPP Rev:A 07.06.11 New Issue EC IPP Rev:B 08-02-22 change to revA as per dwg DD verF by:EC IPP REV:C 15.06.11 AS PER CHG002 DD VERF:JLM IPP REV:D 16.02.05 DWG REV:C (ecn16-514) DD VERF:JLM IPP REV:E 17.01.17 as per dwg REV.D DD VERF:JLM

Ship Via:

Bill of Materials



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S148527



Part: D117-762-041

Job No: 189407

Serial No/Batch: S148527

Revision:

Inspector:

Exp Date:

Instructions: FAA STC SR01853SE 15/10/2016 TC STC LoA R1

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		2/1/19	0.00	0.00	Start Up Skid tubes-1		OP
130	Skid tubes	1 pcs		2/1/19	0.00	3.47	Skid tubes-1		OP
140	Skid tubes	1 pcs		2/1/19	0.00	3.47	Skid tubes-1		BE
150	QC	1 pcs		2/1/19	0.00	0.00	QC10		PD 19-02-07
160	QC	1 pcs		2/1/19	0.00	0.00	QC5		PD 19-02-07
170	HandFinish	1 pcs		2/1/19	0.00	0.97	HandFinish1		D.R 19/2/8
180	QC	1 pcs		2/1/19	0.00	0.00	QC7-1		BE
190	Skid tubes	1 pcs		2/1/19	0.00	3.47	Skid tubes-1		BE 00
200	QC	1 pcs		2/1/19	0.00	0.00	QC10		PD 19-02-14
210	QC	1 pcs		2/1/19	0.00	0.00	QC5		PD 19-02-14
215	HandFinish	1 pcs		2/1/19	0.00	0.97	HandFinish2		D.R 19/2/15
220	Powdercoat	1 pcs		2/1/19	0.00	0.26	Powdercoat1		BE 19-02-25
230	QC	1 pcs		2/1/19	0.00	0.00	QC3		14-2-25
250	HandFinish	1 pcs		2/1/19	0.00	0.97	HandFinish4		14-2-25
260	QC	1 pcs		2/1/19	0.00	0.00	QC5		DAS 14-2-25
270	Packaging	1 pcs		2/1/19	0.00	0.00	Packaging3-1		DAS 14-2-25
275	DC	1 pcs		2/1/19	0.00	0.00	DC		DAS 14-2-25
280	QC21-FG	1 Ea		2/1/19	0.00	0.00	QC21		DAS 14-2-25

DAS
15
9-89

Part Op 130 - 1-Cut Aft end using DT8185 2-Deburr ends 3-Drill Aft Cap holes using DT8678 *** OPEN AFT CAP HOLE TO .187"

Descriptions: *** 4-Locate DT 8973 from aft cap holes & Drill Ground wire hole on top of Tube. 5-Install 3/16 cleco in Ground wire hole, then drill all X-Bolt holes using 3/16" drill. 6-Drill pilot holes for wearplates using DT8900 7-Open wearplate holes to Ø19/64" (0.297") as per Dwg D3582. 8-Drill holes for D5520-1 doubler using DT10309 A & B, locating from 4th and 5th crossbolt holes from aft using .1875 clekos. Spot drill tube using #20 drill (note 10). Remove DT10309 B. Re-install DT 10309 A drill thru tube and doubler using #20 drill (note 10), cleco as you go. Remove .1875 clekos and open holes in tube and doubler to 0.750". Remove doublers and identify orientation. 9-Deburr doubler and doubler holes in skid tube. 10-Countersink doubler holes in skid tube as per Dwg. detail J and note 12 -Touch up alodine on D5520-1 doublers. 11-open ground wear holes to 0.391" as per section B-B 12-Open Aft Cap holes using .209" drill. 13-Drill pilot holes for section D-D and E-E. Holes must be laid out by hand. Mark out Center line and make sure that 6.65 and 5.906 measurements are respected. Double check before drilling, do not open holes to finish size. 12-Do not open holes of section G-G to finishes size.

140 - 1-Weld fwd cap D2964 per dwg D3582 and QSI 004 A/R AL ROD Batch: 136158 2-Grind flush

190 - ***MASK OFF HOLES OF SECTION F-F (DO NOT C'SINK) 1-Open X-Bolt holes to finish size as per Dwg D3582, sections D-D, E-E, G-G as per Dwg. 2-Counter Sink X-BOLT holes as per Dwg D3582 D-D, E-E and G-G.***Do NOT countersink holes of section F-F). 3-Deburr and blow out chips from inside of tube, prep. tube for welding. 4-Install doublers using DT10309 B. Shave rivets as required. 5-Bond web as per Dwg D3582 & QSI 015 A/R 241 Sika Flex Batch: 5128386 Exp Date: 03/07/2019 6- Swage x-bolt spacer as per dwg and Section F-F QSI002. 7-Weld x-bolt spacers as per Dwg D3582 section D-D, E-E and G-G. A/R AL ROD Batch: 138989 8-Grind welds flush

215 - Touch-up alodine as per QSI

220 - START TIME 11:30 OVEN TEMPERATURE: 300° FINISH TIME: 12:00

250 - 1-Inspect for Foreign objects 2-Install Aft cap as per Dwg D3582, Detail "C" A/R 241 Sika Flex

Batch: 5128386 Exp Date: 14-3 3-Install Wearplates as per Dwg D3582, Note: Install Bolt and

washer on Ground Wire inserts on top of tube see section D-D of dwg D3582 *****Do not install bolts where indicated on Dwg(Note #6)***** 4- Wing Walk as per Dwg D3582 and QSI 005 4.4

270 - Identify and pack for shipping as per PPP D117-762-041 Location :FG081

275 - Photocopy bluefile & type labels per PPP D117-762-041 CHG003

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

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Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

Job BOM

Part / Item	Component Name	Quantity	Operation
D3582-1-BENT	Skidtube Assembly BK117	1 pcs (1 ea)	90-Start up Operation
D5520-1	Doubler	2 Ea (2 ea)	130-Skidtubes
D2964	Cap	1 pcs (1 ea)	140-Skidtubes
CR3212-5-05	Rivet	68 pcs (68 ea)	190-Skidtubes
D2971	Cross Bolt Spacer	1 pcs (1 ea)	190-Skidtubes
D3584-1	Web	1 pcs (1 ea)	190-Skidtubes
D3662-1	Crossbolt Spacer	3 pcs (3 ea)	190-Skidtubes
D3662-3	Crossbolt Spacer	1 pcs (1 ea)	190-Skidtubes
D5304-1	Crossbolt Spacer	2 pcs (2 ea)	190-Skidtubes
ALS4-1032-130	Rivnut	36 Ea (36 ea)	250-HandFinish
ALS4-428-165	Insert	2 Ea (2 ea)	250-HandFinish
AN3-5A	Bolt	2 Ea (2 ea)	250-HandFinish
AN3C4A	Bolt	28 Ea (28 ea)	250-HandFinish
AN4-4A	Bolt	2 Ea (2 ea)	250-HandFinish
D2965	Cap	1 pcs (1 ea)	250-HandFinish
D3508-11	Wearplate Aft Center	1 pcs (1 ea)	250-HandFinish
D3508-13	Wearplate Aft	1 Ea (1 ea)	250-HandFinish
D3508-3	Wearplate Fwd Center	1 pcs (1 ea)	250-HandFinish
D3508-9	Wearplate Fwd	1 pcs (1 ea)	250-HandFinish
D3558-11	Gasket Aft Center	1 pcs (1 ea)	250-HandFinish
D3558-13	Gasket Aft	1 pcs (1 ea)	250-HandFinish
D3558-3	Gasket Center Fwd	1 pcs (1 ea)	250-HandFinish
D3558-9	Gasket Fwd	1 pcs (1 ea)	250-HandFinish
NAS1149C0332R	Washer	28 Ea (28 ea)	250-HandFinish
NAS1149D0332J	Washer	2 Ea (2 ea)	250-HandFinish
NAS1149D0416J	Washer	2 Ea (2 ea)	250-HandFinish

008313
 Container
 S144991
 S146705
 S146305
 S117005
 S090635
 S145143
 S148281
 F81606
 S093587
 S007279
 S058145
 S095480
 S152638
 S104458
 S045482
 S119729
 S139664
 S119724
 S119741
 S146259
 S122527
 S146222
 S146232
 S146515
 S123446
 F11181511

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D3582-1-BENT	1	5	0
130-Skidtubes	D5520-1	2	42	0
140-Skidtubes	D2964	1	19	0
190-Skidtubes	CR3212-5-05	68	183	0
	D2971	1	31	0
	D3584-1	1	12	0
	D3662-1	3	9	0
	D3662-3	1	24	0
	D5304-1	2	17	0
250-HandFinish	ALS4-1032-130	36	10,042	0
	ALS4-428-165	2	31	0
	AN3-5A	2	132	0
	AN3C4A	28	1,895	0
	AN4-4A	2	17	0
	D2965	1	41	0
	D3508-11	1	15	0
	D3508-13	1	9	0
	D3508-3	1	9	0
	D3508-9	1	15	0
	D3558-11	1	12	0
	D3558-13	1	14	0
	D3558-3	1	11	0
	D3558-9	1	11	0
	NAS1149C0332R	28	3,307	0
	NAS1149D0332J	2	2,744	0
	NAS1149D0416J	2	2,212	0

Part Specifications

Specifications could not be found.

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
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Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor		
			QC / QA Coordinator		
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

ITEM	Qty -041	Part Number	Description
	X	D3582-041	SKIDTUBE ASSEMBLY
1	1	D2962-150	EXTRUSION
2	1	D2964	CAP
3	1	D2965	CAP
4	1	D2971	CROSS BOLT SPACER
5	1	D3508-3	WEARPLATE
6	1	D3508-9	WEARPLATE
7	1	D3508-11	WEARPLATE
8	1	D3508-13	WEARPLATE
9	1	D3558-3	GASKET
10	1	D3558-9	GASKET
11	1	D3558-11	GASKET
12	1	D3558-13	GASKET
13	1	D3584-1	WEB
14	3	D3682-1	CROSS BOLT SPACER
15	1	D3682-3	CROSS BOLT SPACER
16	2	D5304-1	CROSS BOLT SPACER
17	2	D5520-1	DOUBLER
18	28	AN3C4A	BOLT
19	2	AN3-5A	BOLT
20	2	AN4-4A	BOLT
21	28	NAS1149C0332R	WASHER (AN960C10L)
22	2	NAS1149D0332J	WASHER (AN960JD10L)
23	2	NAS1149D0416J	WASHER (AN960JD416L)
24	36	AELS-1032-130	INSERT
25	2	ALS7-428-165	INSERT
26	68	CR3212-5-05	CSK RIVET, CHERRY MAX

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB. POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3. ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 18.2 lbs
- 8) WELDING: PER DART QSI 004.
- 9) INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- 10) USE DART DRILL TEMPLATE DT8900 TO LOCATE AND DRILL Ø0.297 HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION G-G (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/-291.
- 11) DO NOT INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS IN INDICATED LOCATIONS
- 12) LOCATE QTY (34) HOLES ONTO THE SKIDTUBE PER D5520-1 DOUBLER AND DRILL Ø0.161 THRU SKIDTUBE AND DOUBLER USING DT10309. COUNTERSINK Ø0.286 x 100° (34 PL) PER DOUBLER AND INSTALL EACH D5520-1 DOUBLER USING QTY (34) CR3212-5-05 CSK RIVETS.

RELEASED
2017-08-11
EN 17-547

E	MOVE VIEWS FROM SHT 1 TO SHT 2. ADD ITEMS 17 & 26 AND NOTE 12-13. Ø0.187 HOLE WAS Ø0.75. ADD SHT 3, ADD DETAIL J. SECTION F-F ADD D5520-1. SCALE ON VIEWS WAS 3X.	AJS	17.03.27
D	D5304-1 WAS D2973; REVISE BOM & SECTION F-F & SECTION NOTES (ZN B7-3, A8-3); REF NCR16-6160	RF	17.01.09
C	D3492 PLUG ASSEMBLIES REMOVED. REFORMAT NOTES SHT 1	AP	15.11.02
B	29.86 WAS 29.87 (ZN C2-1), INCORPORATED DEO D3582-A-1 (ZN D5-1), FORMAT TO CURRENT STD	RF	15.02.20
A	NEW ISSUE	PH	07.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	EUGENE, OR	
CHECKED	<i>Mla</i>	DRAWING NO.	REV. E
MFG. APPR.	<i>DP</i>	D3582	SHEET 1 OF 4
APPROVED	<i>DP</i>	TITLE	SCALE
DE APPR.		BK 117 SKIDTUBE ASSEMBLY	NTS
DATE	17.03.27	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

Entered: _____ Date: _____

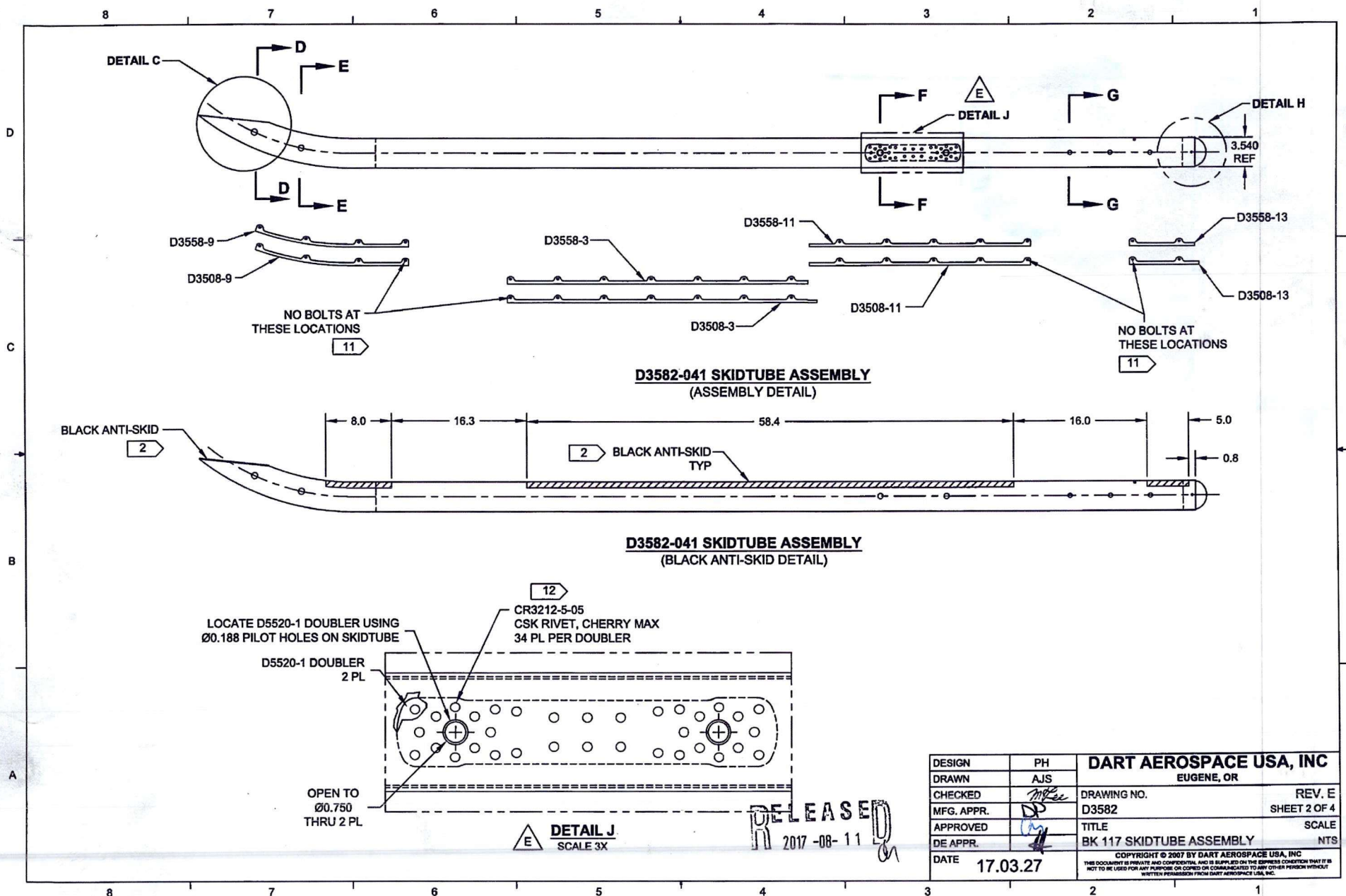


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

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Other/Details:					



DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	EUGENE, OR	
CHECKED	MJS	DRAWING NO.	REV. E
MFG. APPR.	DP	D3582	SHEET 2 OF 4
APPROVED	DP	TITLE	SCALE
DE APPR.	DP	BK 117 SKIDTUBE ASSEMBLY	NTS
DATE	17.03.27	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONVICTION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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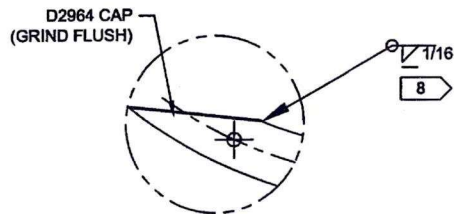


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

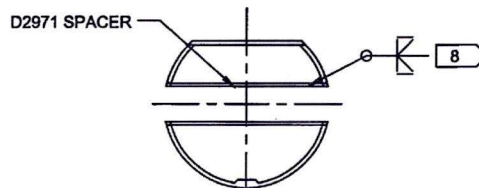
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Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
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Root Cause		FAULT CATEGORY			
Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
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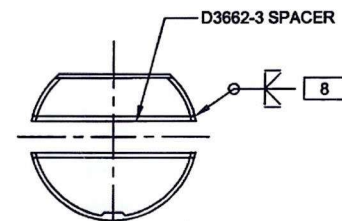


DETAIL C
SCALE 4X



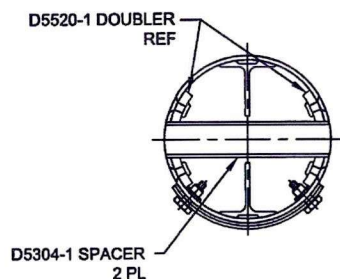
SECTION D-D
SCALE 4X

- SECTION D-D NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D2971 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.750 DRILL TO REMOVE SPILL OVER



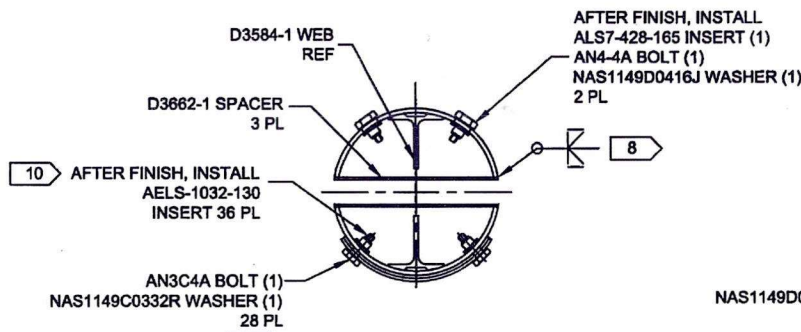
SECTION E-E
SCALE 4X

- SECTION E-E NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D3662-3 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.672 DRILL TO REMOVE SPILL OVER



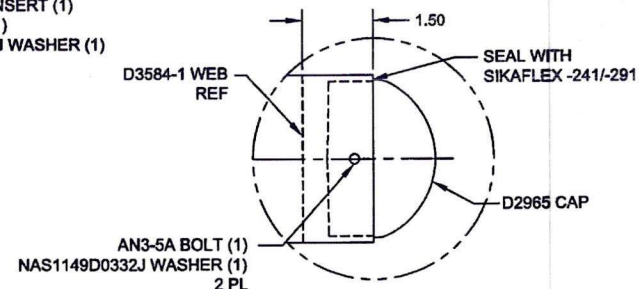
SECTION F-F
SCALE 4X
2 PL

- SECTION F-F NOTES**
AFTER BENDING AND DRILLING ASSY
PERFORM THE FOLLOWING:
1. INSERT D5304-1 SPACER
 2. SWAGE TO Ø0.565 +0.005/-0.000 X 1.0
DEEP PER QSI 002
 3. OPEN THRU HOLE TO Ø0.625
 4. GRIND FLUSH



SECTION G-G
SCALE 4X

- SECTION G-G NOTES**
AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:
1. CHAMFER HOLE 0.030 x 45°
 2. INSERT D3662-1 SPACER (3 PLACES)
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS Ø0.515 DRILL TO REMOVE SPILL OVER



DETAIL H
SCALE 4X

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	EUGENE, OR	
CHECKED	M. Lee	DRAWING NO.	REV. E
MFG. APPR.	DP	D3582	SHEET 3 OF 4
APPROVED	DP	TITLE	SCALE
DE APPR.	DP	BK 117 SKIDTUBE ASSEMBLY	NTS
DATE	17.03.27	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED
2017-08-11

Entered: _____ Date: _____

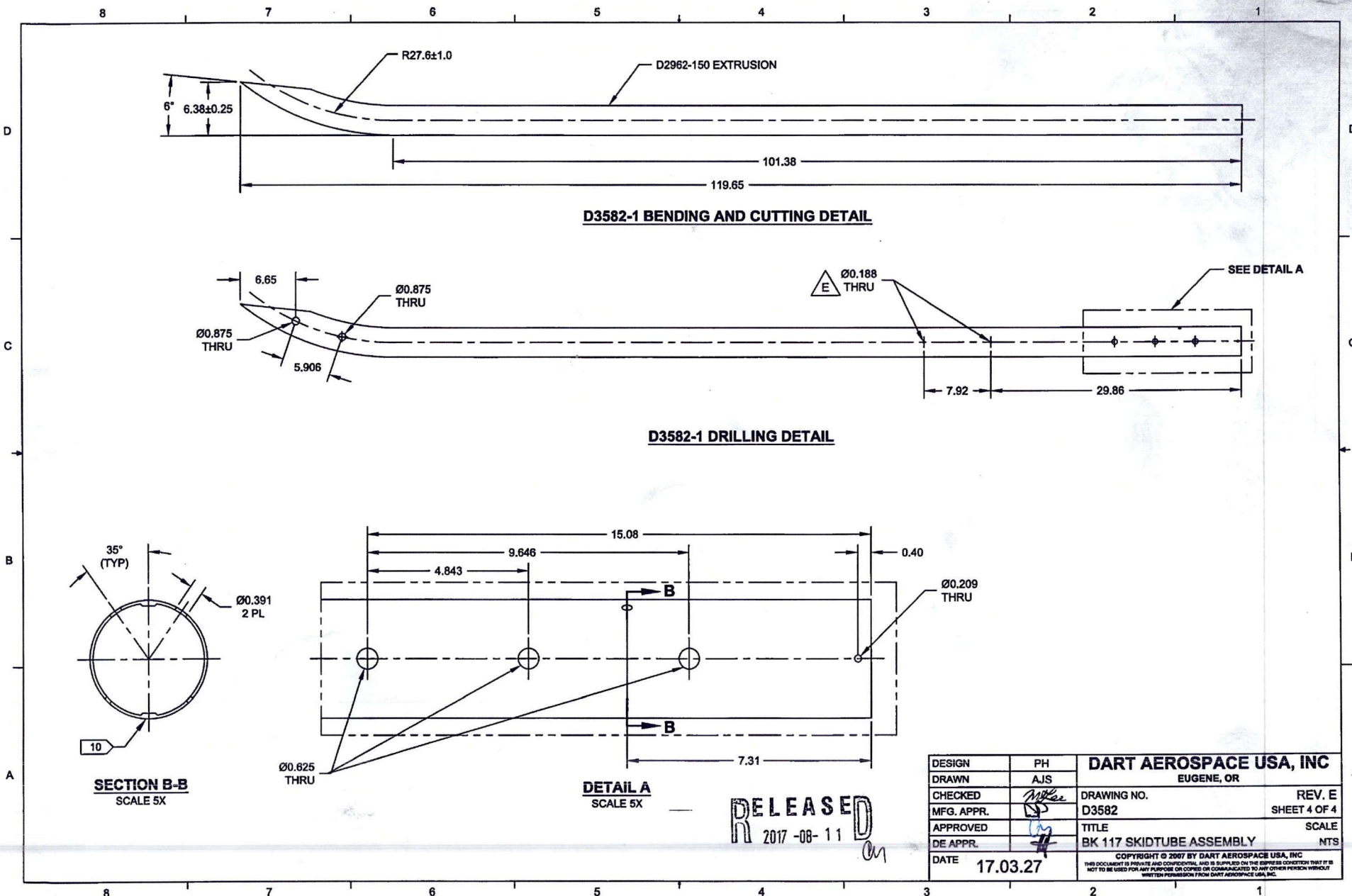


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QS1042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause ☐ Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					